IN THE CLAIMS:

Please cancel claims 8-19 without prejudice and disclaimer.

Please amend claims 1-7 as follows:

1. (Amended) An n-type semiconductor diamond, characterized by:

a crystalline perfectness whereby:

it has impurity atoms constituted by sulfur atoms forming a single donor level of 0.38 eV,

it has a carrier mobility temperature dependency which at a temperature (T) range in excess of the room temperature is T-3/2 dependent, and

it has a diamond peak in its Raman spectrum, whose half width is 2.6 cm^{-1};

a crystalline perfectness whereby:

light emission by excitons is observable; and

a crystalline perfectness whereby:

a distinct Kikuchi pattern in its reflection electron diffraction analysis is observable.

2. (Amended) An n-type semiconductor diamond as set forth in claim 1, characterized in that at a room temperature it has a carrier concentration not less than $1.4x10^{-13}$ cm^{-3} and a carrier mobility not less than 580 $cm^2V^{-1}s^{-1}$.

3. (Amended) A method of making an n-type semiconductor diamond, characterized in that it comprises:

mechanically polishing a diamond substrate to make it an inclined diamond substrate;

subjecting a surface of said inclined diamond substrate to a smoothening treatment make it even;

exciting a raw material gas made of a volatile hydrocarbon compound, a sulfur compound and a hydrogen gas by a microwave plasma while maintaining at a given temperature said substrate surface smoothened as aforesaid to cause n-type semiconductor diamond to grow epitaxially on said surface smoothened substrate.

4. (Amended) A method of making an n-type semiconductor diamond as set forth in claim 3, characterized in that said diamond substrate is a diamond (100) face oriented substrate.

5. (Amended) A method of making an n-type semiconductor diamond as set forth in claim 3, characterized in that said inclined substrate is formed to consist of steps each in the order of an atomic layer, by mechanically polishing a diamond (100) face oriented substrate so that its face normal is inclined at an angle in a range between 1.5 degree and 6 degrees with respect to its <100> direction in a plane made by either its <100> and <010> directions or its <100> and <001> directions.

6. (Amended) A method of making an n-type semiconductor diamond as set forth in claim 3, characterized in that said hydrogen plasma exposure treatment comprises a treatment of exposing said inclined substrate to the hydrogen plasma of a hydrogen pressure of 10 to 50 Torr and a microwave output of 200 to 1200 W at a substrate temperature of 700 to 1200 for a period of 0.5 hour to 5 hours, thereby to make even said substrate surface in the order of an atomic layer.

7. (Amended) A method of making an n-type semiconductor diamond as set forth in claim 3, characterized in that said given substrate temperature lies in a range between 700 and 1100°C, preferably at 830°C.